Manitoba Agriculture

MEASURING YOUR FINANCIAL PROGRESS

Information Update

DATE: February, 1989

To be successful, any business venture must show progress. Progress in the production end of a farm is easily understood by farmers. If a certain crop yield or production per sow is achieved, a clear picture is formed of how well the farm is progressing.

But for many farmers, understanding how they are progressing financially seems more difficult. And this is made more troublesome by the fact that many farmers keep only cash financial records for completing their income tax returns. While cash records are important, other things such as the value of inventories and assets at the farm's year end need to be considered for a complete financial picture.

To measure your financial progress you should consider three main reports: **1) Cash Flow Statement; 2) Net Farm Income Statement; and 3) Net Worth Statement**. The Cash Flow Statement comes directly from your farm cash records. It simply is the summary of cash inflows and cash outflows during the past year. The Net Farm Income Statement can be easily determined by making adjustments to your cash records for inventories, accounts receivable and accounts payable on hand at year end. The result is a more accurate figure for your net farm income produced in that year. Finally, the Net Worth Statement can simply be determined by listing the assets and liabilities on hand at year end and calculating the farm's net worth at that time.

Your financial reports should be completed on a yearly basis based on the end of your fiscal year. This allows you to make direct comparison and monitor your progress from year to year. For most farmers, the year end corresponds to the calendar year, which is at the end of December. However, if your fiscal year follows a different cycle, you should complete the reports at the end of your year.

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Annual Cash Flow Statement

The annual Cash Flow Statement, shown in the attached worksheet example (page 7), shows all the cash inflows and cash outflows in your farm business. The result of this is the net cash flow for the year. You can also reconcile beginning and ending cash on hand from these cash inflows and cash outflows. If your cash records are complete, the beginning and ending cash on hand should be the same as that on your year end bank statement plus any other cash on hand.

To complete this annual Cash Flow Statement, you can use the statement of farming income and expenses from your tax return as a base. Simply insert the income and expenses in the appropriate sections of the Cash Flow Statement, ignoring non-cash tax return expenses such as optional value of livestock, capital cost allowance and allowance on eligible capital property. The cash inflow portion is completed by adding any new term borrowings during the year, capital sales and personal contributions to the farm operation. Cash outflow is completed by adding the appropriate figures for principal repayment, capital purchases, income tax and any personal withdrawals during the year.

The net cash flow for the period is simply the total cash inflow minus total cash outflow. The ending surplus or deficit is determined by adding the beginning surplus or deficit to the net cash flow for the period. Once complete, you have a clear picture of the cash that has come into and gone out of your farming operation during the year.

Net Farm Income Statement

The Net Farm Income Statement provides you with a true measure of the farm's financial performance during the year. Cash income can be increased or decreased by altering the timing of expense payments or cash receipts. But, net farm income makes adjustments for inventory and accounts payable items to match the income produced on the farm in a year with the expenses incurred to produce it. Varying the timing of expense payments and cash receipts does not affect net farm income.

The attached worksheet on the net farm income statement shows some adjustments that can be made to net cash income to determine net farm income for the year. Many of these items can be taken directly from your Manitoba Agriculture booklet, "**Farm Profits Begin With A Clear Financial Picture**". This inventory taking booklet allows you to record on a year end basis, some statistics on market livestock, breeding stock, crops and produce, feed and farm supplies, accounts receivable and accounts payable. Only accrued interest, interest arrears, depreciation and produce used in the home during the year are required from your records or those of your ag. lender.

The income adjustments are made as shown in the worksheet example (page 8) and are added to net cash income to produce the net farm operating income. Net farm operating income is simply the net farm income derived solely from the operations of the farm during the year. To this you add gain or loss on sale of capital assets to derive your net farm income for the year. It is this net farm income that is the true measure of a farm's income generation in that year.

Net Worth Statement

The Net Worth Statement represents the financial position of your farm at a particular moment in time - it's a snapshot of your business. The Net Worth Statement uses current market values for all of your assets (as opposed to the original purchase price). These assets - the owned resources of the farm - are listed on the left side of the statement. The right side of the statement shows who provides the financing of these assets, i.e. your liabilities. The liabilities, then, represent any financial claims against your farm business. The remainder of the asset value is your net worth, or simply, the portion of assets you own in the farm business. The net worth should represent your financial position if you sell out all your assets and pay your debts.

Assets are separated into three categories based on their liquidity - their ability to be converted into cash. Current assets, such as cash on hand, accounts receivable and farm inventories, are the most liquid and come first in a Net Worth Statement. Intermediate assets, such as breeding stock and machinery and equipment, are utilized over a longer period of time and are regularly replaced. They are the next assets in a Net Worth Statement. Finally, the more permanent of the farm operations, i.e. land and buildings are called fixed assets.

Liabilities are categorized on a Net Worth Statement based on when they must be repaid. Current liabilities are those that are due immediately or within the next year and include accounts payable, operating loans, intermediate and long-term debt due this year and accrued and arrears interest. The next category is intermediate liabilities, which includes those debts that are not due this year but are due within 1 to 10 years. Breeding stock and machinery and equipment loans normally are included. Finally, long-term liabilities are those that are due over 10 years time, such as mortgage loans for land or debt consolidation.

Net worth represents the actual ownership in the farm business or that portion of the business that does not have a claim against it. Net worth is calculated simply as the difference between assets and liabilities. The attached worksheet example (page 9) shows how to complete the Net Worth Statement.

Net worth should be compared from year to year to see the financial progress being achieved by your farm operation. Financial progress is simply the difference between the net worth of this Net Worth Statement and that of the previous one. The farm's financial progress can be of two types: earned and unearned. Those increases which result simply from an appreciation in fixed assets were not gained from the actual operations of the farm and are termed unearned. Increases in net worth that have been gained from farm profits or personal contributions to the farm are the earned financial progress of the farm. Earned financial progress provides a good measure of the management skills of the farm operator.

The following example shows how to calculate your earned financial progress for the year. By subtracting the beginning net worth (assumed to be $211,000) from that at the end of the year, you obtain the change in net worth over the year. From this you deduct any appreciation in intermediate and fixed assets from the beginning to ending Net Worth Statements ($7,000 in our example) to

determine earned financial progress for the year. This appreciation in assets represents the unearned financial progress of the farm for that year.

In our example, you will note that the change in net worth is $14,000. After deducting the appreciation in assets of $7,000, you obtain earned financial progress of $7,000 for 1988.

Example - Calculating Your Earned Financial Progress

Ending Net Worth (Dec. 31, 1988)	$225,000	
minus: Beginning Net Worth (Jan. 1, 1988)	211,000	
Change in Net Worth		$ 14,000
minus: Appreciation in intermediate and fixed assets		7,000
Earned Financial Progress, 1988		$ 7,000

The Net Farm Income Statement is related to the Net Worth Statement directly in that **net farm income or loss directly increases or decreases the net worth of a farm.** This relationship can be best seen from the following example.

Example - Reconciling Earned Net Worth and Net Farm Income

Net Farm Income	$ 10,000
plus: Personal Contributions	Ø
plus: Depreciation Used in Net Farm Income	9,000
minus: Personal Withdrawals	12,000
Change in "Earned" Net Worth	$ 7,000

From the example you can see that the earned financial progress in the year - the change in "earned" net worth - is equal to the net farm income adjusted for depreciation expense (a non-cash expense) plus personal contributions net of withdrawals. The $7,000 in earned financial progress determined in the previous example is the same as that derived for change in "earned" net worth.

What Do Your Financial Statements Show?

You can use a number of ratios and other measures to provide some general benchmarks or guidelines for performance of your farm. They should be considered as a means of monitoring your farm's progress over time and in comparing actual performance to budgeted objectives.

Four main financial performance criteria are commonly used in analyzing the farm business. They are: liquidity, solvency, profitability and financial efficiency. These criteria can be easily derived from the financial statements discussed earlier and are measured using various ratio and non-ratio measures. The attached worksheet example (page 10) on analyzing your farm business shows how to calculate these indicators.

Liquidity

Liquidity is the measure of a farm's ability to meet it's short-term cash obligations as they come due. The inability to pay such commitments can result in bankruptcy. Therefore, a farm must maintain some measure of liquidity to be successful.

Two main measures are used for liquidity: the current ratio and working capital. Both measures are taken directly from the **Net Worth Statement**, but differ in how they measure liquidity - either as a ratio (current ratio) or as a dollar figure (working capital).

The **current ratio** is equal to the **current assets divided by the current liabilities** and indicates the current assets available to meet current indebtedness. As a measure of short-term risk, a higher ratio is less risky than a lower one. When the current ratio is less than 1 the farm is likely to have difficulty meeting its current obligations as they come due.

Working capital is found by **deducting current liabilities from current assets** giving a dollar figure for this risk measure. With working capital, a figure less than zero indicates a difficulty in meeting current obligations.

Solvency

Solvency refers to the long-term ability of the farm to meet its total obligations. It is a long-run concept because in the short-run, the farm operation does not have to repay all its debts at once - it only has to repay those debts which are currently due. Two helpful measures of solvency are net worth and leverage ratio.

The **net worth**, which comes directly from the **Net Worth Statement**, gives an indication of the solvency of the farm. If net worth is greater than zero, the farm is solvent and if net worth is less than zero the farm is insolvent. However, net worth is an incomplete indication of risk because even with a relatively large net worth such as $250,000, if the outstanding liabilities are $1,000,000, the farm operation could be risky.

To provide a better indication of risk, the **leverage ratio** - calculated as **total liabilities divided by net worth** - is often used. The leverage ratio indicates the relative contribution of capital by creditors - total liabilities - and the owner - net worth - in financing the farm. Many ag. lenders prefer to see the leverage ratio at less than 1:1, but the ability of a farmer to handle higher levels of leverage depends upon the management ability of the farmer and the circumstances at the time.

Profitability

For long-term success, a farm operation must generate sufficient profits to provide its owners with a reasonable income and allow for reinvestment in the farm operation. Two measures are often used for profitability: net farm income and return to equity capital.

Net farm income is the return to the farmer for personal and family labour, management and equity capital. It is determined directly from the **Net Farm Income Statement**.

Return to equity capital represents the per cent return in profits that a farmer obtains for investing his capital in the farm operation. It is found by **dividing the return to equity by the net worth** of the farm and multiplying by 100 (to convert to per cent). **Return to equity** is calculated by **deducting personal withdrawals** - representing your return for labour and management - **from net farm income.** In return you obtain the rate of return on your investment in the farm operation after deducting this allowance for labour and management.

Financial Efficiency

There are a number of efficiency measures available for a farm operation, many of which are measuring production efficiency. Two key financial efficiency ratios are gross expense ratio and debt servicing:gross receipts ratio.

The gross expense ratio indicates the proportion of farm cash receipts required to pay for cash operating expenses on the farm. The lower the gross expense ratio, the more efficient the farm is in generating production returns from its investment in farm expenses. The **gross expense ratio** is determined by **dividing cash operating expenses by farm cash receipts.**

The **debt servicing:gross receipts ratio** indicates the debt servicing drain on total cash income. This can be an important ratio in indicating the financial risk on your farm operation - because despite adverse market conditions principal and interest payments must be made. The ratio is determined by **dividing the annual principal and interest payments by gross receipts.** Often when the ratio is in excess of 0.35:1, it is more difficult for the farm to meet all of it's financial commitments and provide the farm family with a sufficient living.

It's Up To You

It's up to you to measure your financial progress. Using the attached worksheets, you can understand your financial position much better and have a firm basis for making profitable farm decisions. Your agricultural representative office or agricultural lender would be pleased to assist you in completing these whorksheets.

Good luck in taking this progressive financial management step.

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FOR FURTHER INFORMATION CONTACT YOUR LOCAL AGRICULTURAL OFFICE.

Annual Cash Flow Statement
Worksheet Example
Period: Year Ended Dec. 31/88

BEGINNING SURPLUS/DEFICIT		$ - 3,900 (A)
CASH INFLOW:		
Crop Sales	$ 58,000	
Livestock Sales	6,000	
Other Receipts	5,000	
_____	_____	
_____	_____	
New Borrowings	20,000	
Capital Sales	10,000	
Personal Contributions	0	_____
TOTAL CASH INFLOW		$ 99,000 (B)
CASH OUTFLOW:		
Crop Expenses	$ 32,000	
Livestock Expenses	1,500	
Livestock Purchases	0	
Other Expenses	2,500	
Operating Loan Interest	500	
Term Loan Interest	20,500 (C)	
_____	_____	
_____	_____	
Principal Repayment	990 (D)	
Capital Purchases	30,000	
Income Tax	0	
Personal Withdrawals	12,000 (E)	_____
TOTAL CASH OUTFLOW		$ 99,990 (F)
NET CASH FLOW FOR PERIOD (B - F)		$ - 990 (G)
ENDING SURPLUS/DECIFIT (A + G)		$ - 4,890 (H)

Net Farm Income Statement
Worksheet Example
Period: Year Ended Dec. 31/88

CASH OPERATING RECEIPTS:		
Crop Sales	$ 58,000	
Livestock Sales	6,000	
Other Receipts	5,000	
_____	_____	
_____	_____	
TOTAL CASH OPERATING RECEIPTS		$ 69,000 (I)
CASH OPERATING EXPENSES:		
Crop Expenses	$ 32,000	
Livestock Expenses	1,500	
Livestock Purchases	0	
Other Expenses	2,500	
Operating Loan Interest	500	
Term Loan Interest	20,500	
_____	_____	
_____	_____	
_____	_____	
TOTAL CASH OPERATING EXPENSES		$ 57,000 (J)
NET CASH INCOME (I - J)		$ 12,000 (K)
INCOME ADJUSTMENTS:		
Ending Crops Inventory	+ 16,000	
Beginning Crops Inventory	- 10,000	
Ending Livestock Inventory	+ 17,000	
Beginning Livestock Inventory	- 16,000	
Ending Livestock Products Inventory	+ 0	
Beginning Livestock Products Inventory	- 0	
Ending Supplies Inventory	+ 5,000	
Beginning Supplies Inventory	- 5,000	
Ending Accounts Receivable	+ 0	
Beginning Accounts Receivable	- 0	
Ending Accounts Payable	- 0	
Beginning Accounts Payable	+ 0	
Ending Outstanding Interest	- 0	
Beginning Outstanding Interest	+ 0	
Depreciation	- 9,000	
Value of Produce Used in the Home	+ 0	
TOTAL INCOME ADJUSTMENT		+ - 2,000 (L)
NET FARM OPERATING INCOME (K + L)		$ 10,000 (M)
Gain on Sale of Assets	+ 0 (N)	
Loss on Sale of Assets	- 0 (O)	
NET FARM INCOME (M + N - O)		$ 10,000 (P)

Net Worth Statement
Worksheet Example
Date: Dec. 31/88

ASSETS	VALUE		LIABILITIES	VALUE	
Current:			Current:		
Cash On Hand & On Deposit	0		Operating Loans	4,890	
Accounts Receivable	0		Accounts Payable		
Market Livestock	7,000		Accrued Interest & Arrears Interest		
Crops Inventory	16,000		CWB Cash Advance Payment		
Farm Supplies	5,000		Intermediate Debt Due This Year & Arrears	10,000	
Other			Long Term Debt Due This Year & Arrears		
TOTAL CURRENT ASSETS	28,000	(Q)	**TOTAL CURRENT LIABILITIES**	14,890	(R)
Intermediate:			Intermediate (1-10 years)		
Breeding Stock	10,000		Intermediate Debt	50,000	
Machinery & Equipment	75,000		Other Intermediate:		
Other					
TOTAL INTERMEDIATE ASSETS	85,000		**TOTAL INTERMEDIATE LIABILITIES**	50,000	
Fixed:			Long Term (over 10 years)		
Farm Land	275,000		Long Term Debts	148,110	
Value of Buildings	50,000		Other Long Term		
Other Fixed Assets					
			TOTAL LONG TERM LIABILITIES	148,110	
			TOTAL LIABILITIES	213,000	(S)
TOTAL FIXED ASSETS	325,000		**NET WORTH**	225,000	(T)
TOTAL ASSETS	$438,000		**TOTAL LIABILITIES & NET WORTH**	$438,000	

ANALYZING YOUR FARM BUSINESS

Liquidity:

$$\text{Current Ratio} = \frac{\text{Current Assets (Q)}}{\text{Current Liabilities (R)}} = \frac{28,000}{14,890} = \underline{1.88:1}$$

Working Capital =

Current Assets (Q) - Current Liabilities (R) = 28,000 - 14,890 = $\underline{\$13,110}$

Solvency:

Net Worth (T) = $\underline{\$225,000}$

$$\text{Leverage Ratio} = \frac{\text{Total Liabilities (S)}}{\text{Net Worth (T)}} = \frac{213,000}{225,000} = \underline{0.95:1}$$

Profitability:

Net Farm Income (P) = $\underline{\$10,000}$

Return to Equity Capital =

$$\frac{\text{(Net Farm Income (P) - Personal Withdrawals (E))}}{\text{Net Worth (T)}} \times 100 =$$

$$\frac{(10,000 - 12,000)}{225,000} \times 100 = \underline{-0.9\%}$$

Financial Efficiency:

$$\text{Gross Expense Ratio} = \frac{\text{Cash Operating Expenses (J)}}{\text{Farm Cash Receipts (I)}} = \frac{57,000}{69,000} = \underline{0.83:1}$$

Debt Servicing:Gross Receipts Ratio =

$$\frac{\text{erm Loan Interest (C) + Principal Paid (D)}}{\text{Gross Receipts (I)}} = \frac{20,500 + 990}{69,000} = \underline{0.31:1}$$

Annual Cash Flow Statement Worksheet

Period: _____

BEGINNING SURPLUS/DEFICIT			$_____ (A)
CASH INFLOW:			
Crop Sales	$_____		
Livestock Sales	_____		
Other Receipts	_____		
_____	_____		
_____	_____		
New Borrowings	_____		
Capital Sales	_____		
Personal Contributions	_____		_____
TOTAL CASH INFLOW			$_____ (B)
CASH OUTFLOW:			
Crop Expenses	$_____		
Livestock Expenses	_____		
Livestock Purchases	_____		
Other Expenses	_____		
Operating Loan Interest	_____		
Term Loan Interest	_____	(C)	
_____	_____		
_____	_____		
Principal Repayment	_____	(D)	
Capital Purchases	_____		
Income Tax	_____		
Personal Withdrawals	_____	(E)	_____
TOTAL CASH OUTFLOW			$_____ (F)
NET CASH FLOW FOR PERIOD (B - F)			$_____ (G)
ENDING SURPLUS/DECIFIT (A + G)			$_____ (H)

Net Farm Income Statement Worksheet

Period: _____

CASH OPERATING RECEIPTS:			
Crop Sales	$_____		
Livestock Sales	_____		
Other Receipts	_____		
_____	_____		
_____	_____		
TOTAL CASH OPERATING RECEIPTS		$_____	(I)
CASH OPERATING EXPENSES:			
Crop Expenses	$_____		
Livestock Expenses	_____		
Livestock Purchases	_____		
Other Expenses	_____		
Operating Loan Interest	_____		
Term Loan Interest	_____		
_____	_____		
_____	_____		
_____	_____		
TOTAL CASH OPERATING EXPENSES		$_____	(J)
NET CASH INCOME (I - J)		$_____	(K)
INCOME ADJUSTMENTS:			
Ending Crops Inventory	+ _____		
Beginning Crops Inventory	- _____		
Ending Livestock Inventory	+ _____		
Beginning Livestock Inventory	- _____		
Ending Livestock Products Inventory	+ _____		
Beginning Livestock Products Inventory	- _____		
Ending Supplies Inventory	+ _____		
Beginning Supplies Inventory	- _____		
Ending Accounts Receivable	+ _____		
Beginning Accounts Receivable	- _____		
Ending Accounts Payable	- _____		
Beginning Accounts Payable	+ _____		
Ending Outstanding Interest	- _____		
Beginning Outstanding Interest	+ _____		
Depreciation	- _____		
Value of Produce Used in the Home	+ _____		
TOTAL INCOME ADJUSTMENT		+_____	(L)
NET FARM OPERATING INCOME (K + L)		$_____	(M)
Gain on Sale of Assets	+ _____ (N)		
Loss on Sale of Assets	- _____ (O)		
NET FARM INCOME (M + N - O)		$_____	(P)

Net Worth Statement Worksheet

Date: _____

ASSETS	VALUE		LIABILITIES	VALUE	
Current:			Current:		
Cash On Hand & On Deposit	_____		Operating Loans	_____	
Accounts Receivable	_____		Accounts Payable	_____	
Market Livestock	_____		Accrued Interest & Arrears Interest	_____	
Crops Inventory	_____		CWB Cash Advance Payment	_____	
Farm Supplies	_____		Intermediate Debt Due This Year & Arrears	_____	
Other	_____		Long Term Debt Due This Year & Arrears	_____	
TOTAL CURRENT ASSETS	_____	(Q)	**TOTAL CURRENT LIABILITIES**	_____	(R)
Intermediate:			Intermediate (1-10 years)		
Breeding Stock	_____		Intermediate Debt	_____	
Machinery & Equipment	_____		Other Intermediate:		
Other	_____		_____	_____	
TOTAL INTERMEDIATE ASSETS	_____		**TOTAL INTERMEDIATE LIABILITIES**	_____	
Fixed:			Long Term (over 10 years)		
Farm Land	_____		Long Term Debts	_____	
Value of Buildings	_____		Other Long Term		
Other Fixed Assets	_____				
			TOTAL LONG TERM LIABILITIES	_____	
			TOTAL LIABILITIES	_____	(S)
TOTAL FIXED ASSETS	_____		**NET WORTH**	_____	(T)
TOTAL ASSETS	$_____		**TOTAL LIABILITIES & NET WORTH**	$_____	

ANALYZING YOUR FARM BUSINESS

Liquidity:

Current Ratio = $\frac{\text{Current Assets (Q)}}{\text{Current Liabilities (R)}}$ = _____ = ____:1

Working Capital =

Current Assets (Q) - Current Liabilities (R) = _____ - _____ = $_____

Solvency:

Net Worth (T) = $_____

Leverage Ratio = $\frac{\text{Total Liabilities (S)}}{\text{Net Worth (T)}}$ = _____ = ____:1

Profitability:

Net Farm Income (P) = $_____

Return to Equity Capital =

$$\frac{\text{(Net Farm Income (P) - Personal Withdrawals (E))}}{\text{Net Worth (T)}} \times 100 =$$

$$\frac{(\quad - \quad)}{\quad} \times 100 = \quad\%$$

Financial Efficiency:

Gross Expense Ratio = $\frac{\text{Cash Operating Expenses (J)}}{\text{Farm Cash Receipts (I)}}$ = _____ = ____:1

Debt Servicing:Gross Receipts Ratio =

$$\frac{\text{Term Loan Interest (C) + Principal Paid (D)}}{\text{Gross Receipts (I)}} = \frac{\quad + \quad}{\quad} = \quad:1$$